science

prim.4 first term

Mrs: Eman F.

Notes:

- *study day by day*
- *memorize the new words*
- *fix the new information by watching video related to*
- *solve different types of questions*
- *don't translate every word into Arabic*

Unit 1 Matter

Measuring tools

Matter : ***is anything around us***

is anything that has mass and volume

pencil is a matter, desk is a matter two of them made of wood but what is the difference between them?????????????

pencil very light خفيف ====➔ has small mass

desk is very heavy ثقيل ====➔has large mass

so what is mass ?

Mass : ***is the amount of matter in the object.***

amount of wood in desk

amount of water in the water bottle , amount of air in the balloon

---

pencil takes small space ========➔ has small volume

desk takes large space ==========➔has large volume

volume: ***is the space occupied (taken) by the object***

و من هنا ممكن نشيل كلمه volume ف التعريف الاول و نحط بدالها take space

Matter : ***anything that has mass and occupied a space***

Q 1 . Complete

1. Matter has …………… and ……………..

Q2. write the scientific term(Give one word) : ده تعريف مين

1. Everything that occupied a space and has mass(……………………..)
2. Amount of matter that the object contains (……………………….…)
3. Is the space occupied by the object (……………………..……)

Q 3 give reason for (why)

1. **Glass is matter , air is matter , book is a matter**
   because it has mass and volume
2. **The car has volume**
   because it occupies a space





Measuring Tools ادوات القياس

Measure = estimate   اقيس , احدد

Tool = device   جهاز أو اداه

How to measure length   الطول

example :

pencil small object

tool ===➔by using ruler 13

measuring unit ==➔ centimeter 13cm   مينفعش اقول 13 بس

مينفعش اقول اسمك احمد وبس

Object	Measuring tool	measuring unit وحده قياس
Small object Ex: pencil , book, pencil case	Graduated ruler	Centimeter
Large object Table, class room	Graduated tape	Meter 1M =100 cm
Distance between Cairo and Alex		Kilometer 1km= 1000m

Q 1 . Complete

1. Measuring ruler is used to measure ....
2. Measuring tape is used for measuring ....
3. Meter is the unit for measuring ....
4. five meter equal .... centimeter.

Q 2 write the scientific term

1.A unit used to measure the small length as the length of your pen
(……………………..…………….)
2.A unit which is suitable for measuring very large length as the distance between Cairo and Alexandria [………………………………]
3. Tool used to measure medium lengths as the length of the classroom
[…………………………….]
∞∞ نخلى بالنا ف السؤال عاوز اداه ولا وحده قياس ∞∞

How to measure Mass

Object	**Measuring tool**	**measuring unit**
Small masses as the mass of gold ring jewelry chemicals in lab	**Sensitive balance**	**Gram(g)**
Big masses as the mass of vegetables and fruits	**Common balance** (two pan balance)	**Kilogram(kg)** **1 kg= 1000g**
Very big mass		**Ton** **1 ton =1000kg**

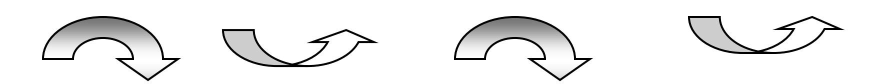
Q 1 . Complete

1. 1 kilogram = ………….. g
2. Common balance is used for measuring ……………………….
3. …………………………. is used to measure the mass of gold ring.
4. ……………. unit is used to measure small masses while ………….. unit is used to measure big masses.
5. ……………………..and ……………… are the unit used for estimating mass of an object .

Q 2 write the scientific term

1.A device used for measuring substance as gold(……………………)

2. a unit for measuring very big masses (………………………..)



مطلوب منك واجب تكتبك الكلمات دى خمس مرات مثلا لغايه ما تحفظها

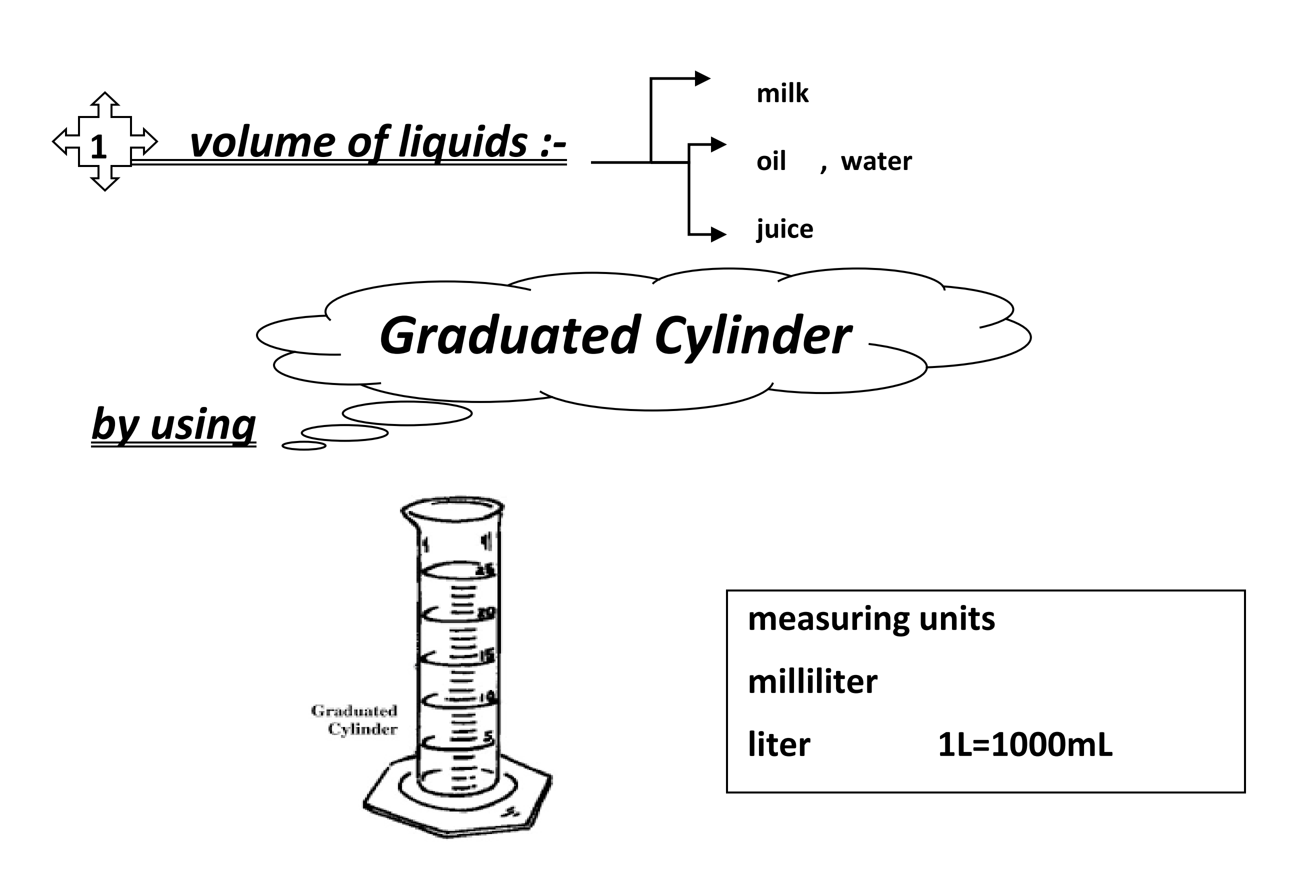
graduated tape

common balance

sensitive balance



How to measure volume



لاحظ المكتوب على زجاجات المياه والعصير

2 volume of regular solids:- (have dimensions ابعاد)

as cube ,cuboids ,book ,box , mobile

V = length × width × height

Height

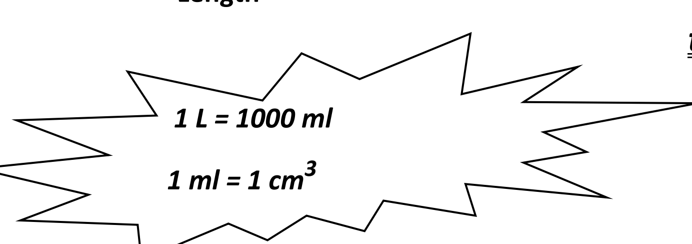
= L × W × H

Length

Width

cm^3

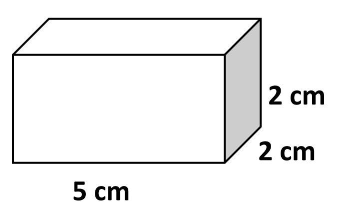
this unit is called cubic centimeter



مثلا يعنى النجار لما ياخد مقاس باب الشقه ينفع ياخدى الطول بس ؟ لأ



Q choose the correct answers :



1. The volume of the box that shown in the figure = …………….. cm^3

   a) 20 b) 25 c) 30 d) 50

2. We can determine volume of liquid by using ………….

   a) Measuring cylinder b) a graduated tape

   c)Common balance d) ruler

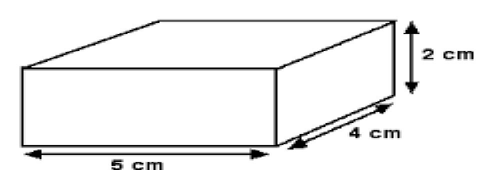
3. The volume of solid material is measured by ………… Unit

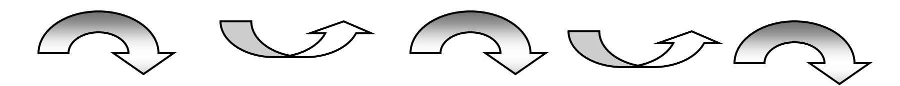
   a)cm b) cm^2 c) m^2 d) cm^3

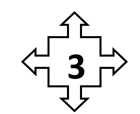
Q calculate the volume of the opposite figure :

……………………………………………………………………

……………………………………………………………………..

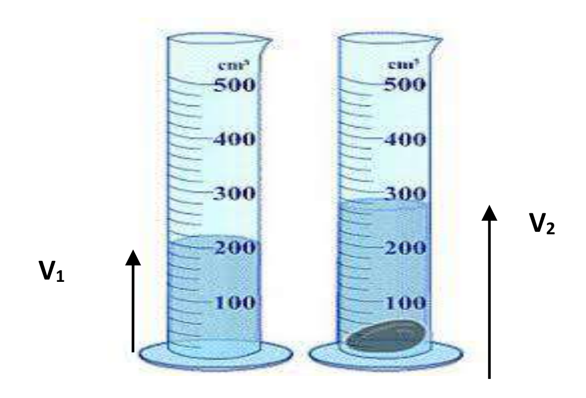






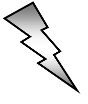
volume of irregular solids : **as stone , marble**

By using graduated cylinder



Volume of stone = the difference between the two reading

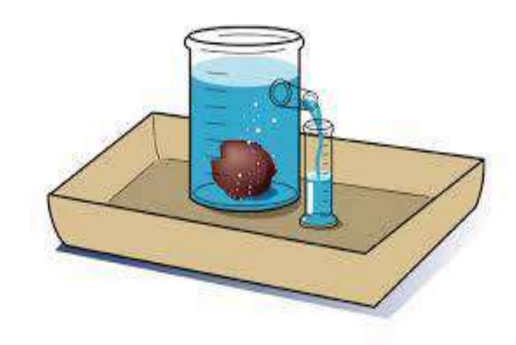
Volume of stone = v_2-v_1 cm³



if the graduated cylinder full of water

the water will spilled out when you put the stone

so ***volume of stone = volume of spilled out water*** ***قد المياه المزاحه***



نخلى بالنا ف المسائل لازم تكتب القانون والوحدات

Q problems :

1.A graduated cylinder has 70 cm^3 of water . when a pupil puts a stone in it , the water level raises to 90 cm^3 what is the volume of stone

………

………

2. A graduated cylinder has 100 cm^3 of water . when a pupil puts four marbles equal in size in it , the water level raises to 120 cm^3 what is the volume of each marble ?

………

………

ف المسأله دى خلى بالك اربعه قد بعض وهو عاوز ال volume
بتاع واحده بس يعنى الناتج يتقسم على 4

choose:-

When your classmate puts a piece of iron in 50 cm^3 beaker that is ***completely filled*** with water , a quantity of 20 cm^3 of water is spilled out , so the volume of the piece of iron equals

a) 20 cm^3 b) 30 cm^3 c) 50 cm^3 d) 70 cm^3

Important note :

Equal volume of different substance have different masses

iron ball and plastic ball with the same size same volume do they have the same mass ? ………………………………………………

Question

Amr calculated the mass of four pieces of <u>different material</u> that are equal in volume . he compared the mass of each of them Amr wants to prove that equal volumes of different materials have …………………

Q MENTION ONE USE OF اذكر استخدام للاتى سؤال مهم

1. ***common balance*** ……………..measure big masses……
2. ***graduated cylinder*** ………………………………………………………….
3. ***sensitive balance*** …………………………………………………………….

Q correct the underlined word صحح اللى تحته خط

1. graduated **<u>tape</u>** is used to measure volume of liquid ……………….

2. we can measure volume of cube of sugar using **<u>graduated cylinder</u>** ……………………..

<u>3. common balance</u> used to measure mass of gold ring ………………….



work sheet 1

Q 1 . Complete the following statement :

1. Matter has …………… and …………….
2. Measuring ruler is used to measure ……………………….
3. Measuring tape is used for measuring ……………………..
4. Meter is the unit for measuring …………………………….
5. …………,…………………. are from the measuring unit of length.

Q 2 choose the correct answers :

1. five meter equal …………… centimeter. (5 – 25 – 500 - 50) Measuring
2. unit of medium lengths……….(m – cm – m^3)
3. The space occupied by the object is called ……………..
   (mass – matter- volume)
4. A body of length 1 ½ meter is ……………. 1500 cm
   (= , > ,<)
5. The unit of measuring the distance between Cairo and Alex.
   (kg – km – cm)
6. We measure the length of a book using a graduated ………………
   (Tape – cylinder – ruler)

Q 3 what is meant by (define):-

1. ***Matter***…………………………………………………………………………………
   …………………………………………………………………………………
2. ***Mass*** …………………………………………………………………………
   …………………………………………………………………………………
3. ***Volume*** ……………………………………………………………………

…………………………………………………………………………………………

Q 4 mention one use of :

1. graduated ruler ……………………………………………………….
2. graduated tape ………………………………………………………..

Q 5write the scientific term :

1. Is the space occupied by the object (…………………….)

2. Everything that occupied a space and has an mass(………………..)

3. Amount of matter that the object contains (………………)

4. A unit used to measure the small length as the length of your pen (………………..)

5. A unit used to measure the large length as the length of your class (………………..)

Q 6 give reason for :

1. air is a matter
   ……………………………………………………………………………
   ……………………………………………………………………………
2. The mobile has volume
   …………………………………………………………………………………

Worksheet 2

Q 1 . Complete the following statement :

1. 1 kilogram = …………… g
2. Common balance is used for measuring ……………………….
3. …………………………… is used to measure the mass of gold ring.

4.…………….. unit is used to measure small masses while ………….. unit is used to measure big masses. Cubic meter is the unit of ……………….

5. 1 liter = ……………. ml

6. The space occupied by a cube of one meter side equal ……………
7. When a marble is submerged completely in a cylinder full of water spilled out the cylinder, so the volume of the marble equals the volume of …………………… water .

8. The mass of two cubes that are equal in volume(one is made of wood and the other is made of iron)is ………………

Q 2 put √ or × and correct the wrong ones :

1. Sensitive balance is used to measure the mass of jewels ( )
2. One kilogram = 1000gm (
3. We can determine volume of sugar cube using a graduated cylinder filled with water ( )
4. Salt has volume only( )
5. Graduated ruler is used to determine the volume of irregular small stone ( )
6. Equal volume of different materials have equal masses ( )

Q 3 write the scientific term :

1. A device used for measuring substance as gold**(……………………)**

2. a unit for measuring very big masses (………………………) A units used to estimate the volume of solids (……………….....)

3. Tool used to measure volume of liquid (……………………………)

Q 4 mention one use of :

1.common balance ……………………………………………………………….
2. sensitive balance ……………………………………………………………..
3. graduated cylinder ……………………………………………………………

Q5 correct the underlined word:

1. we can measure the mass of jewelers using the common balance […………………………]

2. graduated tape is used to measure volume of liquids [……………………………………….]

3 . cm is the unit of big masses [……………………]

4. one kilogram = 100 gram […………………..]

Q6 problems :

1. calculate then volume of a mobile whose length is 8 cm and height is half the length and width is 2 cm

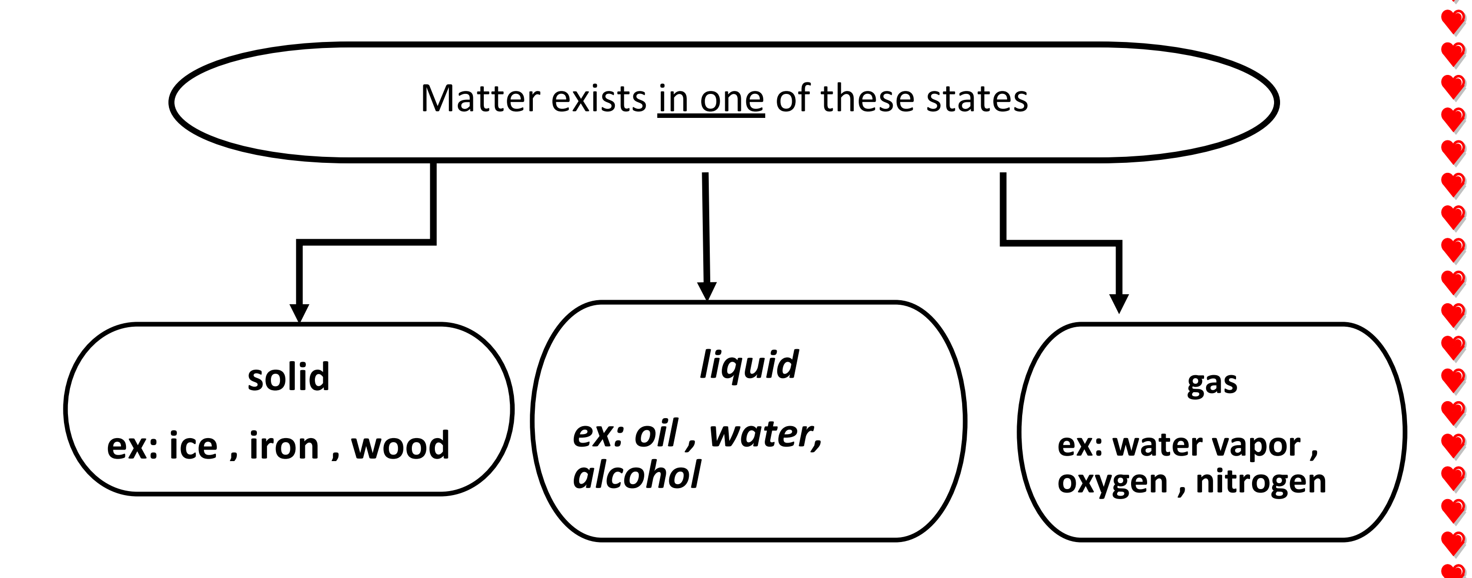
…………………………………………………………………………………………………
…………………………………………………………………………………………

lesson 2 state of matter

حالات الماده

water can be ice , water , water vapour

Matter can be solid , liquid , gas state

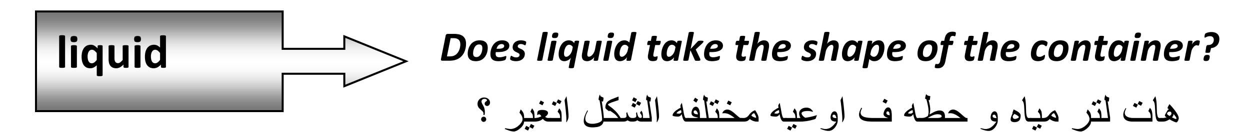




solid

Does the shape of the stone or marble change when we put it in a different container ? هل الحجر شكله بيختلف لو حطيته ف اوعيه مختلفه الشكل

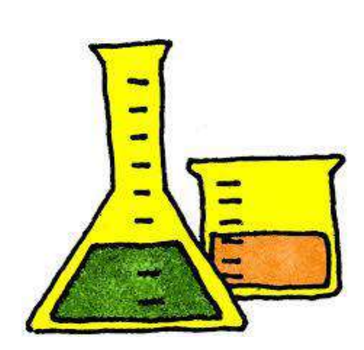
- ***solids have definite shape*** ***شكل محدد لا يتغير***
- ***and definite volume***
- ***doesn't take the shape or the volume of the container***



liquid

Does liquid take the shape of the container?

هات لتر مياه و حطه ف اوعيه مختلفه الشكل اتغير ؟



- liquids takes the shape of the container
- so shape changed according to على حسب the container
- s**o liquid have indefinite shape شكل غير محدد**
- but the volume doesn't change according to the container
- **so liquid have definite volume** اللتر هيفضل لتر

Q? write scientific term:

1. state of matter that has a definite shape and volume [ ]

2. state of matter that takes the shape of the container but its volume doesn't change [ ]

gas → Takes the shape and the volume of the container

- <u>gases have indefinite shape and indefinite volume</u>

- gaseous state of matter is the only state that can be pressed اعرف اضغطها



	solid	Liquid	gas
shape			
Volume			
Takes the shape and volume of container			

Q give reason :

- **on putting a mixture of gravels حصى and water in a refinery مصفاه with minute holes فتحات صغيره the water pass while gravels not?**

  because water liquid and liquid have indefinite shape but gravels solid and solid have definite shape

New question what happen if

ماذا يحدث لو

Q:- you blow air in different balloon

shape and volume changed as gases have indefinite shape and volume



--

Matter can only exist in one state at room temperature

but it can change from one state to another by heating or cooling

1)change of state from liquid to solid

- Change from liquid —freezing→ solid

liquid (water) to solid (ice) by freezing

freezing **:**is the change of matter from liquid to solid by cooling

2) change from solid to liquid

- Change from solid (ice) —melting→ liquid (water)

Melting :-change of matter from solid to liquid by heating

➢ ***3) change from liquid to gas***

- Change from liquid —evaporation→ gas(water vapour)

evaporation : is the …………………………………..from ………….to ………….by ………………………

what happen if

Q? Boiling water for a long period of time

……………………………………………………………………………………………

➢ ***4) change from gas to liquid***

- Change from gas (water vapour) —condensation→ liquid

condensation :- is the ………………………… from ……………. to …………. by ……………..

example on condensation :

formation of cloud , formation of drop of water on surface سطح of cold water bottle formation of dew الندى

formation of water drops on the cover of teapot غطاء براد الشاى

Q Give reason for :

Q: formation of drops of water on a surface of cold bottle

answer : due to condensation of water vapour found on air

what happen if

Q? Boiling of water and exposingنعرض the product الناتج to a cold surface

………

………

Note that:

Cooling means decrease ↓the temperature

Heating means increase↑ the temperature

Q? what happen if : ***decreasing temperature of water vapour***

……………………………………………………………..

Note that

It is proffered يفضلnot to fill bottle of water to an end if you put in the freezer in order to not to explode

as water expand تتمددby cooling



Worksheet 3

Q 1 . Complete the following statement :

1. States of matter are …………………..,………………,…………….
2. Water in solid state is called ………………………….
3. Solid have ……………. shape and volume .
4. ……………… Is the only state that can be pressed.
5. Matter takes the shape of its container and its volume cannot be changed is …………………….
6. Both liquid and gas has indefinite ………..

Q 2 choose the correct answers :

1.water vapour is an example of …………. state

a) gaseous b) liquid c) solid d) a and c

Q 3 put √ or × and correct the wrong ones

1. Liquid matter have definite shape and volumes ( )
2. Water is found in three states ( )
3. Solid substance have definite shape and indefinite volume ( )
4. Air changes in shape and volume with the change of its container (
5. Ice is the solid state of water ( )
6. Nitrogen substance has definite shape and volume ( )

Q 4 write the scientific term :

1. The substance that take the shape and the volume of the container [……………………………].
2. The substance that takes the shape of container but its volume cannot change [………………………]

Q 5 give reason for :

1. Salt is a solid matter
   ……………………………………………………………………………….
2. Air is a gaseous matter, while oil is a liquid matter
   ……………………………………………………………………………….
   ………………………………………………………………………………
3. Apiece of copper has definite shape
   ……………………………………………………………………………….
4. On putting a mixture of gravels and water in a refinery With minute holes , water passes while gravels remain in the refinery
   ……
   ……………………………………………………………………………….

Q 6 what happen when :

1. When you blow air in different balloons
   …………………………………………………………………………………………

Q 7 correct the underline words

1. There are **four** states of matter
2. milk has a definite volume and **definite s**hape
3. oxygen gas has a **definite** shape And volume

Worksheet 4

Q 1 . Complete the following statement :

1. Dew is formed as a result of ………. of water vapour found in ………………
2. Changing of ice into water is called …………………
3. Increasing the temperature of water to the boiling point change water into ……………………
4. Decreasing of temperature of water change it from ……….. to ……. State
5. Rain falls as a result of ……….. process .
6. Freezing is the change of matter from ……….. to ………. State

Q 2 choose the correct answers :

1. The change of matter from one state to another needs

a) Heating b) cooling

C)heating or cooling

2. When we pour water from container (A) to (B) then into(C) we observe that the volume of water in container (A) is …………………

a) Larger than (b) b) larger than (C)

c)equal that in (B),(C)

3.The change of matter from the liquid state into the gaseous state (water vapour) is called ……………..

A) freezing b) condensation

C)Evaporation d) melting

4. **Matter exist in……… …. State at room temperature**

a) one state *b) two states* *c) three states*

5. **When water boils , it changes from ……………..**

A) The solid state into the liquid state

B) The liquid state into the gaseous state

C) The gaseous state into the solid state

D) The gaseous state into the liquid one

6.**On decreasing the temperature of water vapour , it …………**

A) freezes B) condenses

C) melts D) evaporates

7. **Changes of matter from the gaseous state to the liquid state Is called ………………**

a) Freezing b) condensation

c)melting

8**. The change of water into ice is accompanied by مصحوب ب…………..**

a) a decrease in volume b) evaporation process

c) an increase in temperature d) a decrease in temp.

<u>Q 3 put √ or × and correct the wrong ones</u>

1. Freezing is the change of matter form solid to liquid state ( )
2. On decreasing the temperature of water vapour , it condensing ( )

Q 4 write the scientific term :

1. The transfer of ice into water by heating […………………]
2. The change of liquid state to solid state by cooling[…………………..]
3. The change of matter from liquid state to gaseous state by heating[……………………………..]
4. The change of solid substance to liquid substance by heating[……………………………..]
5. The change of gaseous substance to liquid substance by cooling[……………………………..]

Q 5 what happen when :

1.Rising of the temperature of a piece of ice

……………………………………………………………………………

2. Boiling of water and exposing the product to a cold surface

……………………………………………………………………………………..

Q 6 correct the underline words

1. **liquid** melt by heating .
2. The appearance of some water drops on the leaves of plant and cars is due to the **evaporation** process .
3. The change of matter from liquid state to gaseous state by heating is known as **condensation.**



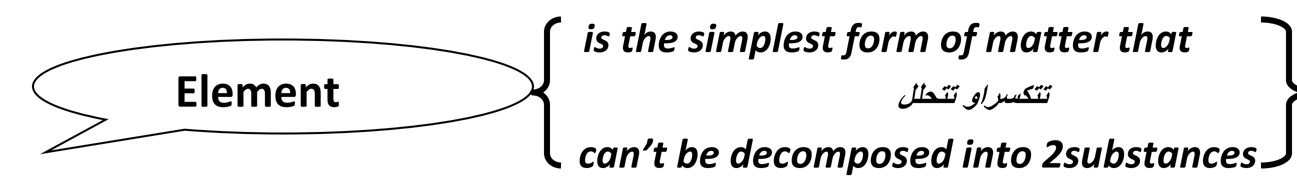
Lesson "3" Element around us

Examples:-

- *NAIL المسمار IS MADE UP OF IRON AND IRON IS AN <u>ELEMENT</u>*
- *Gold Ring Is Made Up Of gold And Gold Is An <u>Element</u>*

but can we get iron from the gold ring? no

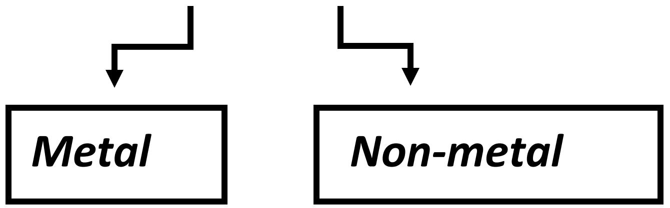
because it is made up of one element



- *known element in nature are 118 element*

92 natural *26 artificial *(man made it)*

- *we classify نقسم the element into*





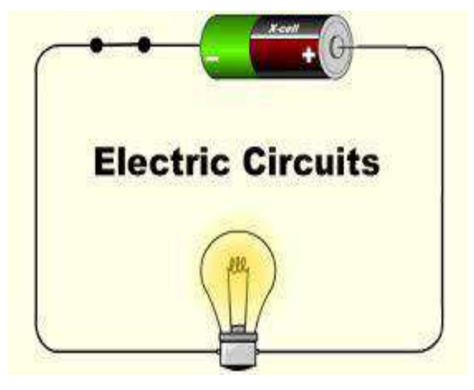


❖ ***comparison between metal and non- metals***

	Metals	*Non- metal*
Examples	***Solid :*** *Iron , Gold , Silver , Aluminum , Copper* ***Liquid :*** *Mercury*	***Solid :*** *Sulphur ,Carbon , phosphorus* ***liquid :*** *bromine* *Gas : oxygen , nitrogen*
Luster اللمعان	*Have luster "shiny"*	*Doesn't have luster*
Conductivity توصيل الحراره *of heat*	*Good conductor*	*Bad conductor*
conductivity of electricity	*Good conductors*	*All bad conductor* ***except*** ما عدا *carbon*
Malleability (ductile) سهوله التشكيل	*Malleable* *Can be bent* تثنى *Can be hammered*	*Not malleable*
Melting point	*At high temperature*	*At low temperature*



❖ Experiment to prove electrical conductivity:



❖ *if we put iron nail in the circuit does the lamp light ?...........................*

❖ *if we put plastic ruler does the lamp light.................*

❖ *if we remove the battery does the lamp light? ....why...*

Q Complete the following statement :

1.element are classified into ……………..,……………………

2. ………………… is the only liquid metal, while ……………….. is the liquid nonmetal .

Q write the scientific term :

1. Is the simplest form of matter that cannot be decomposed into two substance [……………………..……]

2. element that have metallic luster and have the ability to conduct electricity [……………………………..]

Q what happen when :

1. You fix a piece of wax شمع at one end of an iron bar and expose the other end to a candle flame and why ?

………………………………………………………………………………………….

…………………………………………………………………………………………..



Carbon = Graphite = Coal

the only non-metal which is good conductor of electricity

uses of some elements :-

Element	*kind*	*Use*
Iron	*Metal*	*making bridges , car frame, street light*
Aluminum	*Metal*	*Cooking pots, foil, doorknobs*
copper	*Metal*	*Electrical wires ,status تماثيل*
Gold, silver	*Metal*	*Jewels*
Carbon =Graphite	*Non -metal*	*Positive pole of dry cell or battery*

important give reason:

1. **copper is used in manufacturing of electrical wire**

   because copper is good conductor of <u>electricity</u>

2. **cooking pots are made of aluminum**

   because aluminum is good conductor of <u>heat</u>

3. **Handel of cooking pots are made of wood or plastic**

   Because wood is bad conductor of heat

4. ***carbon is non- metal although it is used in*** *making* **the positive pole of dry cell (battery)**

   because its good conductor of electricity

lesson 3 worksheet 6

Q 1 . Complete the following statement :

1. …………………. is the substance that cannot be decomposed into two substance.
2. At the room temperature all metals are solids except ………………. which is liquid .
3. ……………….. is the only liquid metal, while ……………….. is the liquid nonmetal
4. The group of ……………. has metallic luster , but the group of ……………. Doesn't have.
5. Graphite is from …….……….. element and it is good conductor of ……………

Q 2 choose the correct answer :

1.an example of non metals is……………….

A) iron b) carbon c) copper d) aluminum

2. ……………… is from non- metals that is found in liquid state at room temperature .

a)iron b) bromine c) copper d) mercury

3. The foil paper that is used in wrapping up chocolate shows the ………………………
   a) Electrical conductivity of metals
   b) Ability of metals for melting
   c) Malleability or ductility of metals
   d) Heat conductivity of metals

4. Carbon …………………
   a) Is a good conductor of heat
   b) Is malleable or ductile
   c) Is good conductor of electricity
   d)(A), (b) and (c)
5. The car frames are made up of iron because it ………….
   a) is a good conductor of heat
   b) is a malleable and ductile
   c) has high melting point
   d) All the previous

Q 3 write the scientific term :

1. Is the simplest form of matter that cannot be decomposed into two substance(…………………)
2. The elements that have metallic luster (…………………)
3. Elements that don't have metallic luster (…………………)
4. The only liquid metal at room temperature (…………….)
5. A liquid non metal (…………………..)



lesson 3 worksheet 7

Q 1 choose the correct answer :

1. The cooking pots are made up of ………………..

a) graphite b) sulpher c)wood d) aluminum

2. Gold and silver are used manufacturing of ……………………………..

a) Bridges b) Planes c) jewels d) cooking pots

3. Status are made up of ………………………….

A) sulpher b) carbon

c) copper d) aluminum

4. Electric wires are made up of ……………….

A) sulpher b) carbon

c)copper d) gold

Q 2 give reason for :

1. The poles of the dry cell are made of graphite
2. { Carbon is non -metal although it is used in making the electrode of dry cell }
   ……………………………………………………………………………………
   ……………………………………………………………………………………
3. Using copper in manufacturing of electric wires
   ………………………………………………………………………….
4. Cooking pans are made of aluminum
   ………………………………………………………………….

5. Handles of cooking pots are made of wood or plastic

   ……………………………………………………………………………

   ………………………………………………………………………………………….

Q 3 mention the use of :

1. Iron …………………………………………………………………………….
2. Gold and silver ………………………………………………………….
3. Copper ……………………………………………………………………….
4. Carbon ……………………………………………………………………….
5. Aluminum ………………………………………………………………….

Q 4 what happen when :

1. The handles of cooking pots are made of aluminum and why

……………………………………………………………………………………….

I.

Test Yourself As In Mid Term Exams

Q1 (A)write scientific term :

1. *The substance takes the shape and the volume of the container […………….……]*
2. *The change of solid substance to liquid substance by heating [………..]*
3. *The elements that has metallic luster [……………………]*
4. *The liquid non metal [……………………..]*
5. *amount of matter that the object contains [………………………..]*

Q1(B) Give Reason For:-

1. copper used in manufacturing of electrical wire

………………………………………………………………………………………………………..

2.salt is a solid matter

……

Q2(A)what happen if:

1. Rising then temperature of a piece of ice

……

2. The handle of cooking pots are made of aluminum

………………………………………………………………………………………………………

Q2(B) correct the underlined word:

1.<u>evaporation</u> is the change of matter from gaseous state to liquid state by cooling […………………………]

2.there are <u>four</u> states of matter […………………]

3. <u>liquid</u> melt by heating [………………..]

4. <u>meter</u> is the measuring unit of volume of liquids[………………..]

5. status are made of <u>carbon</u> [………………………]

Q 3(A) mention one use of :

1.gold and silver

……….

2.common balance

………

***(B)**calculate the volume of cuboid whose length is 5 cm, its width is 3 cm and its height is 2 cm*

……

………..

Q4 complete:

1.graphite is from ……………………… element and its good conductor of ……………………..

2…………………,………………… are the measuring unit of length

3.matter has …………….. and …………………..

4.freezing is the change of matter from ……………..state to ……………….. state by cooling.

5. liquid have ………………..…shape and ………………… volume



Lesson "4" physical change and chemical change

*lets first know what is the meaning of the word **properties***

- ***properties means :-***
- *the color*
- *the texture الملمس*
- *the smell*
- *the odor*
- *the taste*

*example : when we **cut the paper** it change in the shape only without changing in its properties or structure تركيبها*
*but if we burn the paper it will change in **the shape and structure** producing new substance تظهر ماده جديده with different properties*

so

Physical change	***Chemical change***
Change in the shape only(appearance) المظهر فقط of the matter	***Change of the shape and structure of the matter producing new substance with different properties***

Q write scientific term :

1. Is the change in the structure of the substance producing a new substance with different properties (…………………….)
2. Is the change in the appearance of matter without any change in its structure (………………………..)

Examples:

Physical change	*Chemical change*
1. dissolvingاذوب of salt or sugar in water ***2. cutting paper, paper recycle*** ***3. melting , freezing , evaporation of water(formation of cloud and rain)*** ***4. melting of wax , chocolate, ice*** ***5. bending (malleability)of element*** ***6. grindingطحن of sugar chalk الطباشير***	***1. burning(combustion, charring) of paper , wood , candle, sugar , bread*** ***2. fermentation (rotten)تخمر او تعفن of fruits , digestion of food*** ***3. rusting of iron صدا الحديد*** ***4. adding yeast to dough اضافه الخميره للعجين*** ***5. production of yoghurt الزبادى*** ***6. digestion of food***

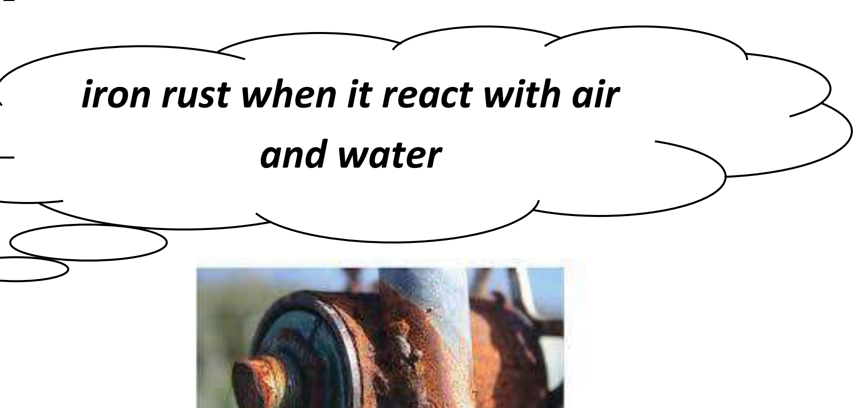
Q give reason :

- ***grinding of sugar is a physical change while burning it is a chemical change***

because by grinding the shape only change , but in burning then shape and structure change

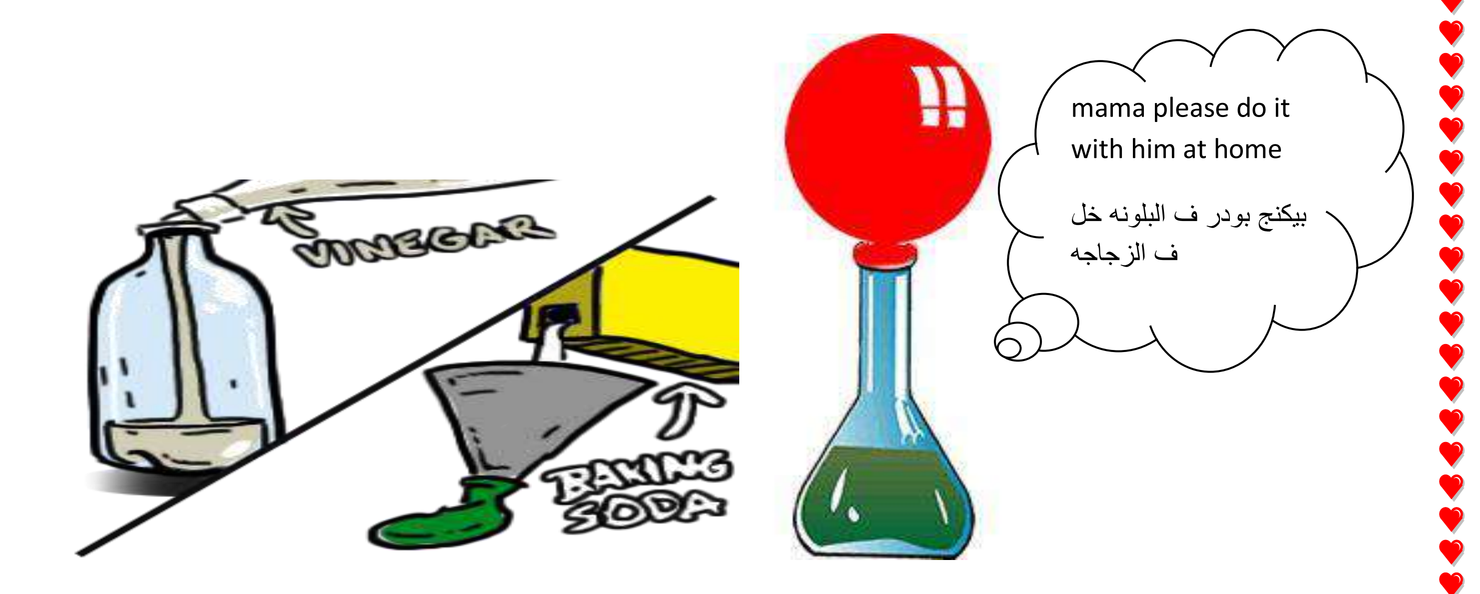
- ***adding yeast to dough is a chemical change***

because it produce new substance that makes the bread porous and swelling it.



lovely experiment :

adding sodium bicarbonate to vinegar



Q complete by using

(physical change) or (chemical change)

1. rusting of iron ………………………………
2. grinding of sugar …………………………..
3. cutting apiece of paper …………………..
4. burning of sugar …………………………..
5. fermentation of fruits …………………………
6. production of yoghurt from milk ………………………..
7. Paper recycling

…………………………………………………



lesson 4 worksheet 8

Q 1 . Complete the following statement :

1. Melting of ice is considered a …………………… Change
2. Boiling of water to form water vapour is considered as ………………….. change
3. The chemical change is the change in the …………………..
4. Burning of wood is considered a ………………….. change .
5. Charring of bread is ………………… Change .
6. Ductility of copper into wires Is considered ……………. change while iron rusting is considered ……………. change .
7. Rotten of fruits and their fermentation is considered as ……………………… change .
8. Melting of wax is considered a ………………. change , while burning of candle is a ………………….. change.
9. Production of yoghurt from milk and digestion of food are ………………… Change .
10. Dissolving sugar in water is ……………. change

Q 2 choose the correct answer :

1.All of the following are chemical changes except

a) burning of coal

b) formation of salt solution

c) combustion of paper

d) rusting of iron

2. ………………is a change in the appearance of matter without any change in its structure .

a)Chemical change b) physical change

c) Matter d) metal

3. putting a bottle of water in the freezer of the refrigerator for 24 hours is …………….

a) a chemical change to water

b) a physical change to water

c) the formation of new substance

d) a and b

4. Adding table salt to water with stirring produces …………………

a) a new substance b) a chemical change

c) a physical change d) a ,b and c

5 . …………………is an example of the physical change

A)dissolving of sugar in water

b) Fermentation of fruits

c) Combustion of candle

d) Rusting of iron

6. The change produced as a result of malleability of copper into wires is the same change produced from …………….

a) Making bread

b) Melting of wax

c) Burning of coal

d) Charring of sugar

Q 3 write the scientific term :

1. Is the change in the structure of the substance producing a new substance with different properties (……………………)
2. Is the change in the appearance of matter without any change in its structure (………………………..)
3. A change occurs when iron react with oxygen and water (…………….)

Q 4 give reason for :

1. melting of ice is a physical change
   …………………………………………………………………………………………………….
2. burning of paper is a chemical change
   …………………………………………………………………………………………………….
3. rusting of iron is a chemical change
   ……………………………………………………………………………………………………
4. formation of cloud and rain is a physical change
   ……………………………………………………………………………………………………

Q 6 what happen when :

1 . adding yeast to dough's then baking why?

……………………………………………………………………………

2.Putting a piece of iron wire in a jar filled with dry oxygen why?

……………………………………………………………………………………………………….

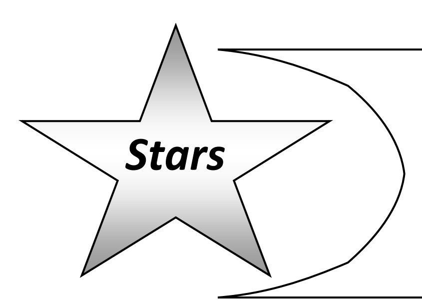
3.You expose a shiny nail made of iron to wet air for a certain period

…………………………………………………………………………………………………..



unit 2 the universe

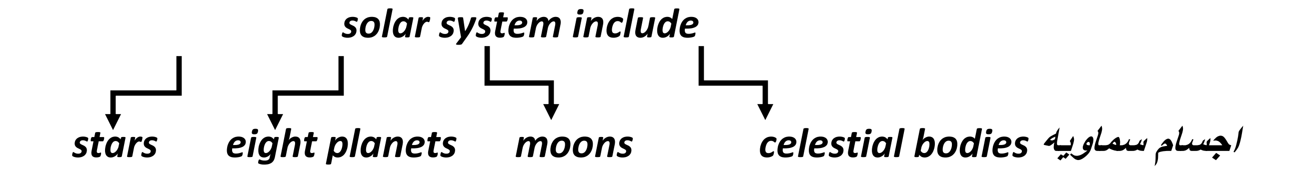
lesson 1 stars and planet

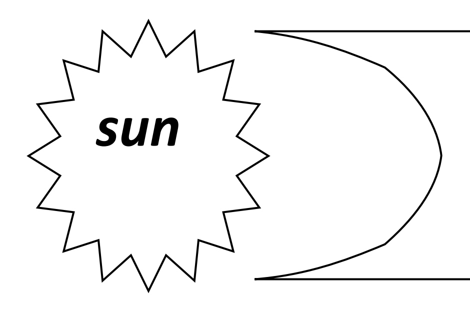


- **they are lightning" shiny" bodies lies in the space**
- **have different sizes**
- **they look small in size as they are very far from us**

<u>give reason :</u> the big star appear small in size

because they are very far from us





- **a medium sized star**
- **emit = radiate تشع light and heat**
- **biggest body in the solar system**
- **central body in the solar system**

<u>give reason :</u> sun seems bigger to us than the other stars

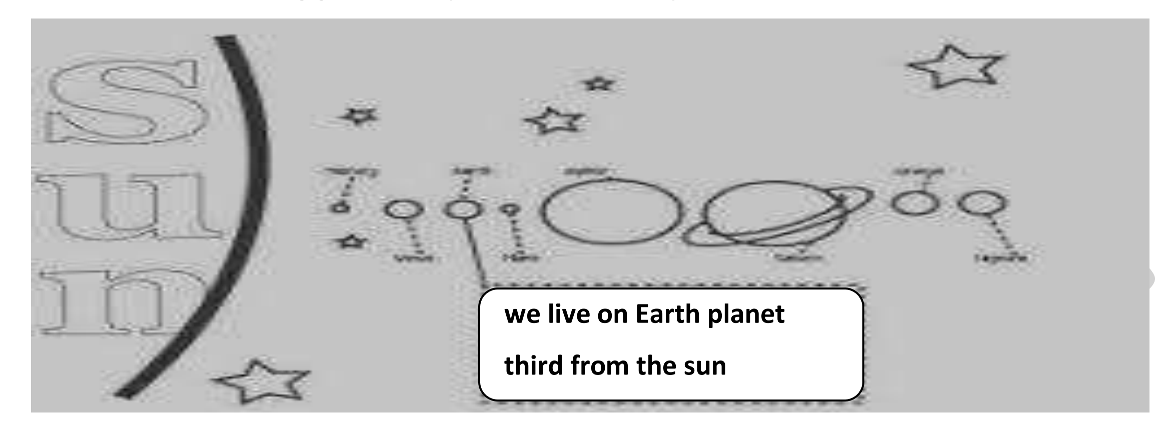
because it is the nearest star to us

Test yourself

complete

1. sun radiate ………………… and ………..

2……………..is the biggest body in the solar system



Eight Planets

- ***planets: are dark bodies that revolve تلف around the sun in a fixed orbit (path)***

❖ ***arrangement according to distance from the sun***

Mercury ,Venus ,Earth ,Mars, Jupiter ,Saturn ,Uranus ,Neptune

❖ ***arrangement according to size***

Jupiter, Saturn, Uranus,, Neptune ,Earth, Venus ,mars, mercury

- ***from this arrangement we can say that Earth occupies the……………..positionمكان according to its size and ……………. position according to distance from sun***

- ***characteristics of the planets*** مميزات كل كوكب

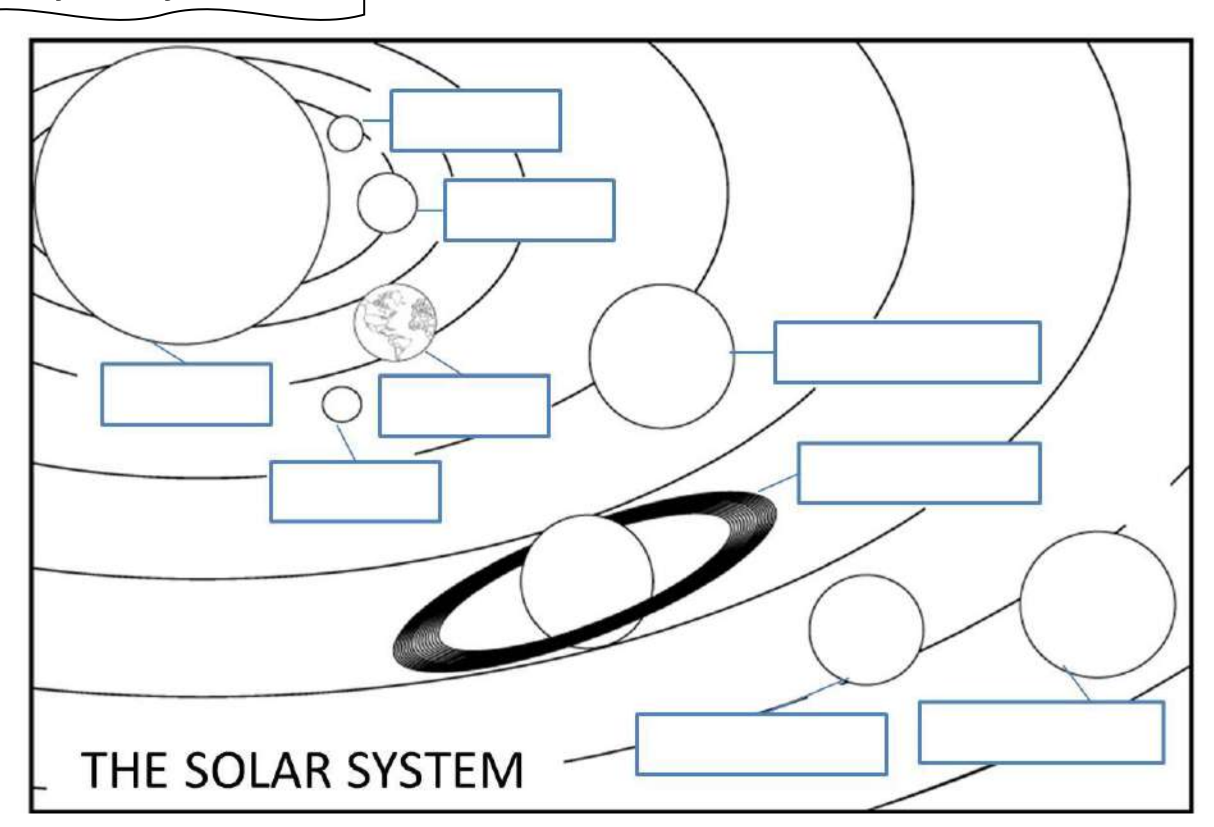
planet	characteristics
Mercury	Smallest , nearest to the sun
Venus	The most beautiful planet
Earth	We live on
Mars	The red planet
Jupiter	Biggest planet
Saturn	Has a colored ring around it
Uranus	The cold planet
Neptune	Blue planet, farthest from the sun

Q give reason :

- ***Uranus is called the cold planet***

  because it is very far from the sun

Test yourself



Q 2 write scientific term:

1. ***a dark body revolve around sun and we live on it [………………]***
2. ***one of the solar system planets that has a colored ring around it [……………………..]***
3. ***the biggest body in the solar system […………………]***



Dark bodies revolve around the planets { followers تابع to the planets

we see it shiny because it reflects the sunlight

Give reason :** **although the moon is dark we see it shiny

because it reflects the sunlight

معلومه ع الماشى

ليه قولنا moons

لان كل كوكب ليه الاقمار بتاعته هل تتخيل ان Jupiterعنده 62 قمر

unit 2 lesson 1 Worksheet 9

Q 1 complete :

1. The sun radiates .... and ....
2. .... Locates at the center of the solar system and there are .... that revolve around it in definite orbits .
3. Planets are .... bodies that revolve around the sun in a fixed orbits.
4. The number of planets that revolve around the sun is ....
5. Earth is in the .... position according to distance from sun and in .... Position according to size

Q 2 choose :

1. The stars ....

a) Are shiny bodies
b) are dark bodies
c) Are bodies that don't emits light
d) All the previous

2. the sun is a star because ....

a) Absorb light b) reflects light
c)radiate light d) let light pass through

3. The central body of the solar system is the ....

a)Earth b) Moon c) The sun d) Mars

4. .... IS the biggest body in the solar system

a)Earth b) Moon c) The sun d) Neptune

Q 3 put √or ×:

1.Stars are shiny body (   )

2. The sun is a planet and it emits light (   )

3. The earth revolves around sun in affixed orbit (   )

Q 4 write the scientific term:

1.A celestial body emits heat and light in the solar system [   ]

2. Shiny objects radiate light and heat and appear in the sky at night. [   ]

3. A medium-sized star,where earth planet revolve around it.[   ]

4. Dark objects revolve around the sun in fixed orbit [   ]

5.A dark body revolves around the sun and we live on it. [   ]

Q 5 Give reason for:

1. The big star seems small in size
   ……………………………………………………………………………………
2. The sun is a star, while the earth is a planet
   ……
   ……
3. The sun seems bigger to us than the other stars
   ………

Worksheet 10

Q 1 complete :

1. The nearest planet to us is ……………. , while ………………….. is the farthest planet from the sun .
2. The biggest planet is ………………… While …………… Is the smallest one
3. ……………. is the most beautiful planet in the solar system .
4. The earth planet lies between …………….. planet and …………. planet.
5. ………………… Is a dark body that revolves around earth and reflects the …………………………….
6. ………………… Are followers of the planets that revolve around them .
7. ……………… is the red planet while ….. is the blue planet .

Q 2 choose :

1. The nearest planet to the sun is …………….

a)Earth b) Mercury c) Jupiter d) Neptune

2. ………….. is the biggest planet in the solar system

a)Earth b) Mercury c) Jupiter d) Neptune

3.the coldest planet is ………….

a)Uranus b) sun c) Jupiter d) Earth

4. The red planet is ………………

a)Neptune b) mars c) Jupiter d) Earth

Q 3 put √or × :

1. The largest planets in the solar system is Uranus (   )

2. The third planet away from the sun is mars (   )

Q 4 write the scientific term:

1. Dark object revolve around sun and we live on it [ ]

2.The farthest planet away from the sun [ ]

3. The planet that has colored ring [ ]

4.A dark object revolves around the earth and reflects the sun light falling on its surface [ ]

Q 5 Give reason for:

1.Uranus planet named the cold planet

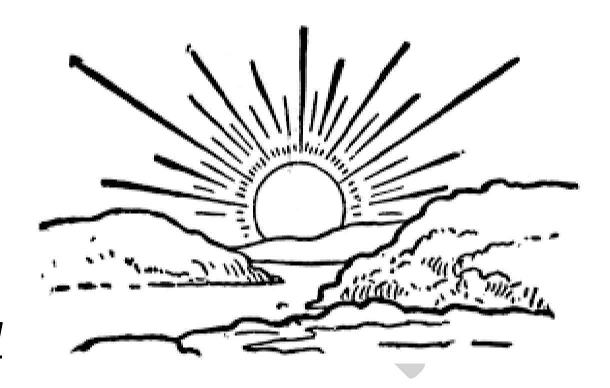
……………………………………………………………………………………

2. Although the moon is a dark body we see it shiny

………………………………………………………………………

unit 2 lesson 2 rotation of sun and Earth

all celestial body are in a continuous motion ***كل جسم ف السما بيتحرك***



- ***sun appears*** ***تبان كأنها*** ***as it rises from east and set from west is it correct?***
  No
  sun doesn't rotate around earth
  earth is rotating around itself (its axis 0
  this is called apparent movement of sun ***حركه الشمس الظاهريه***

- ***if you look at the shadow of the tree during the day you will notice that it change its position why?***
  due to the apparent movement of sun or due to rotation of earth around itself

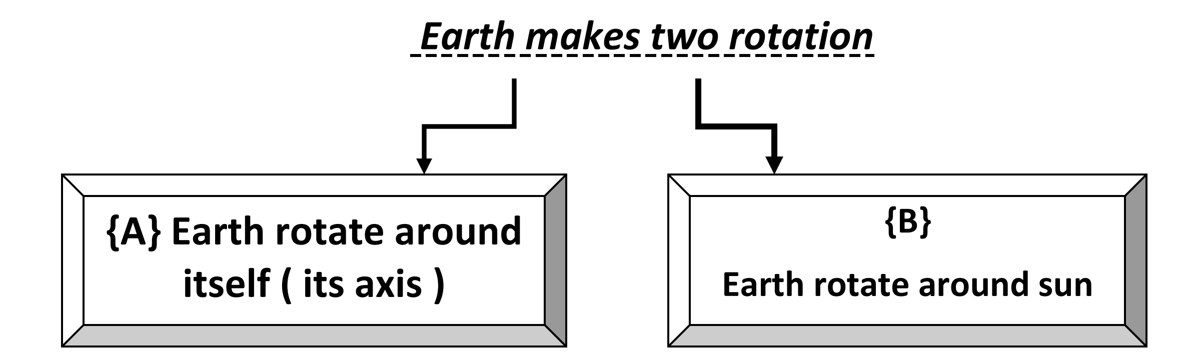




shadow moves

does the tree move ? no

Earth makes two rotation

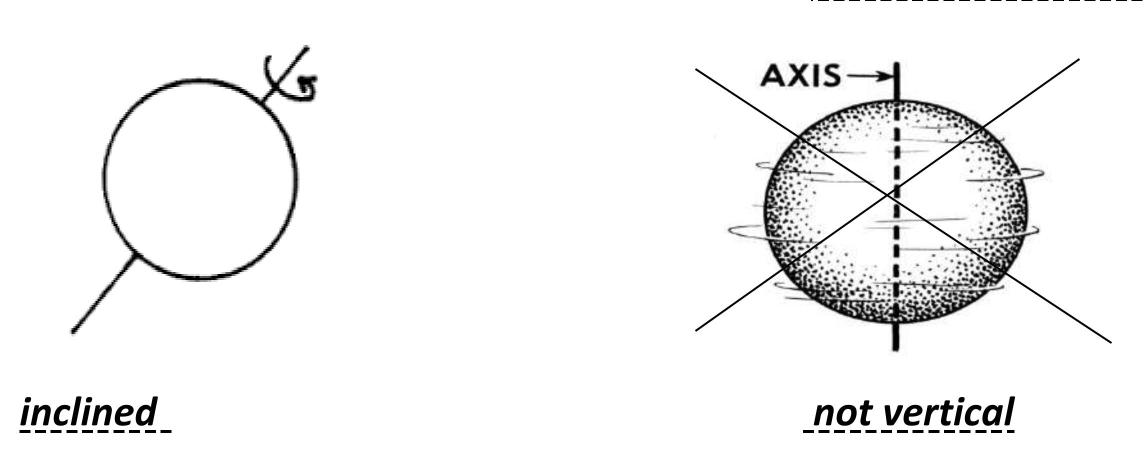


{A} rotation of earth around itself

earth rotates around itself or around its axis once every day 24 hours

axis of earth is not vertical it is inclined مائل

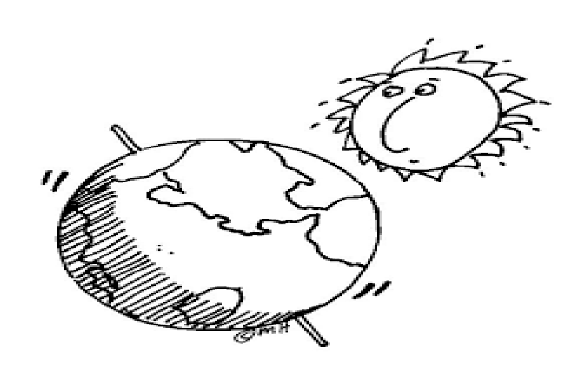
ال axis ده خط خيالي غير حقيقي



inclined ***not vertical***

- ***rotation of earth around its axis causes يسبب***

Sequence of day and night تتابع الليل و النهار



Q what happen when: **earth rotate around its axis**

sequence of day and night

Q give reason : **sequence of day and night**

due to rotation of earth around its axis

بتذاكر ليه عشان انجح

نجحت ازاى عشان ذاكرت

Hours of day are not equal hours of night because the earth axis is inclined

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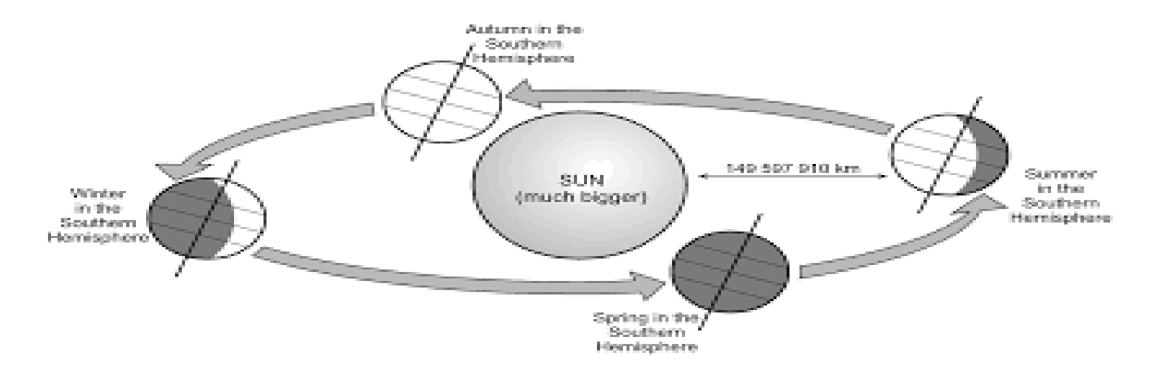
{B} Rotation Of Earth Around Sun

Earth rotate around sun once every year 365¼ day

causes sequence of four seasons { phenomenon}ظاهره

Earth divided into two hemisphere Northern and Southern

Egypt is in the Northern hemisphere

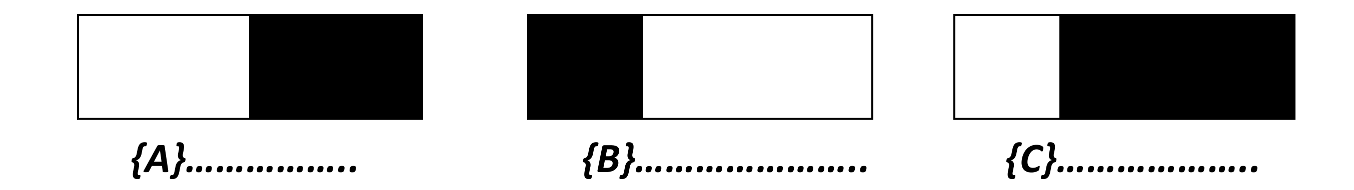


- ***day in summer season is longer than day in winter season because the earth axis is inclined***

day and night are equal in spring and autumn(fall) season

Question 1

Here are three figure indicating the day and night during 24 hours , write then suitable season under each one



{A}…………….　***{B}…………………..***　***{C}………………..***

Question 2

what is the phenomenon result from?

1.rotation of earth around itself {*sequence of day and night.****}***

2.rotation of earth around the sun{ *sequence of four season****}***

دلوقتى بقى ركز معايا

Number of hours in day 24 hour

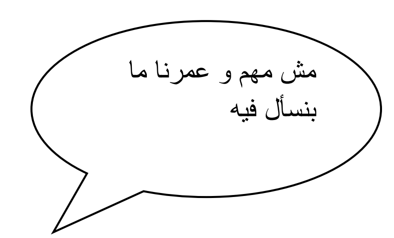
Sun rise الشروق at 5 am

Sun set الغروب at 6 pm

6 دى غلط هى غربت بعد ما شرقت بساعه ؟ لأ

المفروض نقول ان غروب الشمس الساعه 18= 6+12

read of sunset = time of sunset + 12 hours



- read of sunset = time of sunset + 12 hours
- The length of day = read of sunset – read of sunrise
  وقت النهار من الشروق للغروب
- The length of night = 24 hours – length of day



Worksheet 11

Q 1 complete:

1. The apparent movement of the sun is due to the rotation of …………….

2. Sequence of day and night occurs due to the …………………… .

3. The earth's axis is inclined causing the difference between …………………

Q 2 Choose:

1. The earth's axis is ……….

a) vertical   b) horizontal

c) inclined   d) all the previous answer

2. Sequence of day and night occurs due to the ……………………

a) rotation of the earth around the sun.

b) rotation of the earth around its axis.

c) rotation of the sun around its axis.

d) all the previous answers.

Q 3 write the scientific term :

1. a phenomenon occures when the earth rotete around its axis.

[   ]

Q 4Give reason :

1. The apparent rotation of the sun.

   ……………………………………………………………………………………

2. Sequence of day and night.

   ……………………………………………………………………………………

Q 5 what happen when :

1.The earth rotate around its axis.
……………………………………………………………………………………….

Work sheet 12

Q 1 complete:

1. The day in the ………………. Season is longer than the day in the ………….. season .
2. Day and night are nearly equal only during ………………….. And ………………… season.
3. In the ……………… Season, day is longer than night.
4. In the ……………… Season, day is shorter than night.
5. Earth rotates around the sun once every ………………, while it rotates around its axis once every …………….. .
6. Sequence of …………………………….…… Occurs due to rotation of the earth around its axis, while sequence of …………….……………… Occurs due to rotation of the earth around the sun.
7. Length of day equal………………………… ……………………………………………… .

Q 2 Choose:

1. Hours of day are nearly equal to that of night in……………..seasons.

a) Winter and summer b) summer and spring

c) Spring and autumn d) autumn and winter

2. The sequence of four season is due to the …………………

a) rotation of the earth around the sun.

b) rotation of the earth around its axis.

c) rotation of the sun around its axis.

D) rotation of the moon around the earth.

3. Time of sunset – time of sunrise equals =

a)length of day　　　　b)length of night

c)length of year　　　　d)path of planets

Q 3 write the scientific term :

1. phenomenon occures when the earth rotete around the sun .
[ ]

2.seasons where , the hours of day are nearly equal to those of night.
[ ]

Q 4Give reason :

1.Sequence of the four seasons.

………………………………………………………………………………………………….

2.The day in summer is longer than the day in winter in the northern hemisphere.

………………………………………………………………………………………………….

Q 5 what happen when :

1. The earth doesn't rotate around the sun.

………………………………………………………………………………………

2.The earth revolves around the sun once every year.

………………………………………………………………………………………

